-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--
All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to *3 October 2005*.

2. ☒ The allowed claim(s) is/are *1 and 6-21*.

3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   ·b)☐ Some*   c)☐ None   of the:

        1. ☐ Certified copies of the priority documents have been received.

        2. ☐ Certified copies of the priority documents have been received in Application No. _____ .

        3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

    * Certified copies not received: _____ .

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application. **THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.

5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.

    (a)☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached

        1)☐ hereto or 2)☐ to Paper No./Mail Date _____ .

    (b)☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____ .

    Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).

6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)

2. ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)

3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date _____

4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material

5. ☐ Notice of Informal Patent Application (PTO-152)

6. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____ .

7. ☐ Examiner's Amendment/Comment

8. ☒ Examiner's Statement of Reasons for Allowance

9. ☐ Other _____ .

EXAMINER'S STATEMENT OF REASONS FOR ALLOWANCE

Comment on Submissions

1.   This communication is responsive to submissions 3 October 2005.

Allowable Subject Matter

2.   Claims 1 and 6-21 are allowed.

3.   The following is an examiner's statement of reasons for allowance:

Regarding independent claims 1 and 19, the prior art does not disclose or fairly

suggest a method or system of generating a detector position map for an array of

detectors, the detector position map comprising a map which maps measured

coordinates from a detection event to the detector in the array which detected the

detection event, the method comprising: modifying a histogram to comprise a plurality of

second peaks comprises compressing the histogram by averaging adjacent pixels of the

histogram; applying low pass filter to the compressed histogram to produce a smoothed

histogram; applying a Laplacian filter to the smoothed histogram to produce a Laplacian

histogram; and modifying regions of the Laplacian histogram having values less than a

threshold value to produce a threshold histogram.

The examiner notes that while it is known in the art to of modifying a histogram

providing a smoothing technique that allow images to be discerned, but they do not add

information. Smoothing techniques simply spread out the known information so that

information can be better interpreted by the human eye. However, in doing so, the

image looks better and patterns can be seen, but, in terms of information theory,

information has actually been lost (see for example *Stark et al – US 6,403,961 B1 – col.*

4, lines 5-14), upon reconsideration it is agreed that the prior art does not suggest a detector position map comprising applying a Laplacian filter to the smoothed histogram to produce a Laplacian histogram and modifying the region of the Laplacian histogram having values less than a threshold value to produce a threshold histogram.

Regarding independent claims 14, 16 and 18, the prior art does not disclose or fairly suggest a method or system of generating a detector position map for an array of detectors, the detector position map comprising a map which maps measured coordinates from a detection event to the detector in the array which detected the detection event, comprising: applying a Laplacian filter to modify the histogram to produce a Laplacian histogram and wherein regions of the Laplacian histogram are modified having values less than a threshold value to produce a threshold histogram.

The examiner notes that while it is known in the art to of modifying a histogram providing a smoothing technique that allow images to be discerned, but they do not add information. Smoothing techniques simply spread out the known information so that information can be better interpreted by the human eye. However, in doing so, the image looks better and patterns can be seen, but, in terms of information theory, information has actually been lost (see for example *Stark et al – US 6,403,961 B1* – col. 4, lines 5-14), upon reconsideration it is agreed that the prior art does not suggest a detector position map comprising applying a Laplacian filter to the smoothed histogram to produce a Laplacian histogram and modifying the region of the Laplacian histogram having values less than a threshold value to produce a threshold histogram.

Regarding independent claim 17, the prior art does not disclose, or fairly suggest a method of generating a detector position map for a positron emission tomography scanner, the method comprising the steps of: applying a Laplacian filter to the smoothed histogram to produce a Laplacian histogram and applying a threshold criterion to the Laplacian histogram to produce a threshold histogram.

The examiner notes that while it is known in the art to of modifying a histogram providing a smoothing technique that allow images to be discerned, but they do not add information. Smoothing techniques simply spread out the known information so that information can be better interpreted by the human eye. However, in doing so, the image looks better and patterns can be seen, but, in terms of information theory, information has actually been lost (see for example *Stark et al – US 6,403,961 B1* – col. 4, lines 5-14), upon reconsideration it is agreed that the prior art does not suggest a detector position map comprising applying a Laplacian filter to the smoothed histogram to produce a Laplacian histogram in order to apply a threshold criterion to a Laplacian histogram to produce a threshold histogram.

The remaining claims 6-13, 15 and 20-21 are allowable based on their dependency.

4.   Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

5.   Any inquiry concerning this communication or earlier communications from the examiner should be directed to Faye Polyzos whose telephone number is 571-272-2447. The examiner can normally be reached on Monday thru Friday from 7:30 AM to 4:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dave Porta can be reached on 571-272-2444. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

6.   Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

FP

DAVID PORTA
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800